



Wet Deposition of PFAS

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Why Measure Atmospheric Deposition?

- Adjacent to production facilities there are demonstrated indications of the impact of the air pathway on drinking waters - observations of PFAS in wells located downwind, up gradient, &/or across the river from facilities: Parkersburg, WV; Fayetteville, NC; West Deptford, NJ, and others.
- Several physical processes can affect the air-surface exchange of chemicals including bi-directional gas exchange, wet deposition, & dry deposition; the contribution of each varies with chemical species
- Initial focus on wet deposition
 - Able to build on existing infrastructure and methods
 - Anticipated to play an important role for many PFAS based on solubility
 - Inexpensive compared to dry deposition allowing for more locations to be sampled

- Evaluate wet deposition measurement technique developed by Wisconsin State Laboratory of Hygiene that 'piggy-backs' on NADP wet deposition collections.
- Focus on understanding uncertainties, both sampling & chemical analysis using existing collection (NTN) & chemical techniques (ISO-21675).
- Use measured concentrations and fluxes to begin to bound the importance of the air pathways to surface waters & soils.

- Excess waters from weekly integrated NADP samples are separately transferred (plus a MeOH bucket rinse) & analyzed by LC/MS for 36 PFAS.
- Samples are collected at 4 established NADP sites in NC, NJ, NY & ME.
- Triplicate samples are collected in NC to evaluate uncertainties.



NC30 – Duke Forest in Chapel Hill, NC



Current Status

- Collections are ongoing at four locations and will soon increase.
- First of two years of collections completes 01 October & sampling to be added in Devils Lake, WI; Kickapoo Tribe, KS; & Bronx, NY*.
- Transitioning NC triplicate samplers to evaluate throughfall in year 2
 - Under Canopy – both Deciduous & Coniferous at Duke Forest.
- No results yet published, first year of data has not yet reached ‘finalized status.’



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